

**CLAIMS**

1. An apparatus for receiving a digital broadcast signal that is available to receive a digital satellite broadcast signal via an antenna comprising:

5           detecting means for orthogonally detecting a received signal sent from the antenna to a baseband signal;

carrier/noise (C/N)-value-calculating means for measuring an average value of amplitude in radial direction of signal points of phase mapping of the baseband signal obtained by the detecting means to calculate  
10           a carrier/noise ratio for the received signal;

phase-noise-amount-calculating means for measuring an average value of amplitude in circumferential direction of signal points of the phase mapping of the baseband signal to calculate an amount of phase noise of the received signal;

15           bit-error-rate-measuring means for measuring a bit-error rate of transport stream that is given by demodulating the baseband signal;

determining means for determining a factor in deterioration for receiving characteristics of the antenna based on results of the C/N-value-calculating means, the phase-noise-amount-calculating means, and  
20           the bit-error-rate-measuring means; and

measure-mode-setting means for setting a desired measure mode based on the determination result of the determining means.

2. The apparatus for receiving a digital broadcast signal according to claim 1 in which the desired measure mode includes:

a first measure mode responding to a case where carrier/noise ratio is low;

a second measure mode for improving deterioration for receiving characteristics due to phase noise of local oscillator in a frequency converter accompanied with the antenna; and

a third measure mode for improving deterioration for receiving characteristics due to parasitic oscillation of the local oscillator in the frequency converter accompanied with the antenna.

5       3. A method for receiving a signal in an apparatus for receiving a digital broadcast signal that is available to receive a digital satellite broadcast signal via an antenna, the method comprising:

      detection step of orthogonally detecting a received signal sent from the antenna to a baseband signal;

10      carrier/noise (C/N)-value-calculating step of measuring an average value of amplitude in radial direction of signal points of phase mapping of the baseband signal obtained in the detection step to calculate a carrier/noise ratio for the received signal;

15      phase-noise-amount-calculating step of measuring an average value of amplitude in circumferential direction of signal points of the phase mapping of the baseband signal to calculate an amount of phase noise of the received signal;

      bit-error-rate-measuring step of measuring a bit-error rate of transport stream that is given by demodulating the baseband signal;

20      determining step of determining a factor in deterioration for receiving characteristics of the antenna based on results of the C/N-value-calculating step, the phase-noise-amount-calculating step, and the bit-error-rate-measuring step; and

25      measure-mode-setting step of setting a desired measure mode based on the determination result of the determining step.